

IN THE CLAIMS

Claims pending:

- At time of the Action: 1-13, 41-50, 82-92, 98-101, and 103
- After this Response: 1-13, 41-50, 82-92, 98-101, and 103

Currently Amended claims: 1, 3, 6, 7, 41, 43, 46, 82, 85, 87, 89, 92, 98 and 103

Canceled or Withdrawn claims: None

10 This listing of claims replaces all prior versions and listings:

1. (Currently Amended) An architecture embodied on one or more computer-readable storage media, the architecture comprising:

15 a table appearance manager to manage how a table appears in a document, the table having a cell configured to be interpreted by the architecture as word-processing based when the cell includes text or as spreadsheet based when the cell includes one or more of a data value or a formula; ~~and~~

20 a spreadsheet functionality manager to manage spreadsheet functions for the table, the functions comprising: determining, by the architecture and responsive to a [[user]] selection of the cell, whether the cell is word-processing based or spreadsheet-based and treating an enter key typed into the cell as meaning a return command in the event that the cell is interpreted as word-processing based or as meaning a command to navigate to another cell in the event that the cell is interpreted as spreadsheet-based, the selection of the cell, when the
25 cell includes text or a data value, being exhibited by a character-based cursor ready for cell editing, and the selection of the cell, when the cell includes a formula, being exhibited by highlighting the formula; and

a recalculation engine to provide automatic universal recalculation in response to a change to a data value or a formula in one or more tables in the

document, the one or more tables being configured to be displayed with column headers and row headers during editing of the one or more tables, and the one or more tables being configured to be displayed without column headers and row headers at other times;

5 ~~wherein~~ the table appearance manager and the spreadsheet functionality manager ~~[[are]]~~ being architecturally separate system managers of the architecture.

2. (Original) The architecture of claim 1, wherein the document is a markup document.

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3. (Currently Amended) The architecture of claim 1, wherein the table appearance manager provides a formula edit box to permit ~~the user to enter~~ entry of a formula into the cell or another cell of the table.

15 4. (Original) The architecture of claim 1, wherein the table appearance manager comprises:

a table component to support editing functionality of the table; and

a spreadsheet component to receive data and formulas input into the table.

5. (Previously Presented) The architecture of claim 1, wherein the spreadsheet functionality manager comprises:

a cell table to maintain data values and formulas used in the table; and

a format table to maintain formatting information used in the table, the
5 formatting information comprising whether or not the cell is interpreted as word-
processing based or as spreadsheet based.

6. (Currently Amended) The architecture of claim 1, wherein the spreadsheet functionality manager comprises:

10 a cell table to maintain data values and formulas used in the table; and

the [[a]] recalculation engine being configured to recalculate the formulas
following a change to a data value or formula in the cell table.

7. (Currently Amended) The architecture of claim 1, wherein the
15 spreadsheet functionality manager comprises:

a cell table to maintain data values and formulas used in the table;

a delay parser to parse input for the cell table as needed; and

the [[a]] recalculation engine being configured to recalculate the formulas
following a change to a data value or formula in the cell table.

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8. (Original) The architecture of claim 1, wherein multiple tables
appear in one or more documents, and the spreadsheet functionality manager is
configured to maintain data and formulas for the multiple tables.

9. (Original) The architecture of claim 1, wherein multiple tables appear in one or more documents, and the spreadsheet functionality manager is configured to track references made from one table to another table.

5 10. (Original) The architecture of claim 1, wherein multiple tables appear in one or more documents, and the spreadsheet functionality manager is configured to maintain data and formulas for the multiple tables and track references made from one table to another table, the spreadsheet functionality being further configured to update any data and formulas in the multiple tables
10 that is affected by a change made to one of the tables.

11. (Original) The architecture of claim 1, wherein multiple tables appear in one or more documents, and wherein:

the table appearance manager comprises multiple spreadsheet components
15 so that there is one spreadsheet component for an associated table, each spreadsheet component being configured to capture data and formulas input into the associated table; and

the spreadsheet functionality manager comprises multiple grid components so that there is one grid component for an associated table and an associated
20 spreadsheet component, each grid component maintaining the data, the formulas, and formatting used in the associated table.

12. (Original) The architecture of claim 1, further comprising a document renderer to render the document.

13. (Original) The architecture of claim 1, wherein the table appearance manager and the spreadsheet functionality manager reside on different computers.

5 **14-40.** (Canceled).

41. (Currently Amended) One or more computer-readable media comprising computer-executable instructions for defining a computer architecture, wherein the computer architecture comprises:

a table appearance manager to manage how a table appears in a document;

5 a spreadsheet functionality manager to manage spreadsheet functions for the table, the functions comprising determining, by the architecture and responsive to a selection of spreadsheet cells, whether the spreadsheet cells are word-processing based or spreadsheet-based, the selection of the spreadsheet cells, when the spreadsheet cells include text or data values, being exhibited by a character-based
10 cursor ready for cell editing, and the selection of the spreadsheet cells, when the cells include formulas, being exhibited by highlighting the formulas; and

a recalculation engine to provide automatic universal recalculation in response to a change to a data value or a formula in first and second tables in the document, the first and second tables being configured to be displayed with
15 column headers and row headers during editing of the first and second tables, and the first and second tables being configured to be displayed without column headers and row headers at other times;

the first and second tables being renderable as part of a common document, the first table having a first cell configured to be interpreted as word-processing
20 based when the first cell includes text or as spreadsheet-based when the first cell includes one or more of a data value or a formula and the second table having a second cell capable of being interpreted as word-processing based when the second cell includes text or as spreadsheet-based when the second cell includes one or more of a data value or a formula;

a first spreadsheet component to receive at least one of data or a first formula entered into the first cell in the first table;

a first grid component to hold the data or first formula in association with the first cell of the first table;

5 a second spreadsheet component to receive at least a second formula entered into a second cell in the second table, the second formula referencing the first cell in the first table; and

a second grid component to hold the second formula in association with the second cell of the second table,

10 ~~wherein~~ the table appearance manager and the spreadsheet functionality manager ~~[[are]]~~ being architecturally separate system managers of the architecture.

42. (Previously Presented) The one or more computer-readable media of claim 41, wherein the first table is nested within the second table.

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43. (Currently Amended) The one or more computer-readable media of claim 41, wherein the second spreadsheet component presents a formula edit box to allow ~~[[user]]~~ entry of the second formula.

20 **44.** (Previously Presented) The one or more computer-readable media of claim 41, wherein the second spreadsheet component facilitates reference editing to the first cell in the first table.

45. (Previously Presented) The one or more computer-readable media of claim 41, wherein the first table is nested within the second table and the second spreadsheet component facilitates reference editing to the first cell in the first table.

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46. (Currently Amended) The one or more computer-readable media of claim 41, ~~further comprising~~ [[a]] the recalculation engine being configured to recalculate the second formula held in the second grid component in response to a change of the first cell in the first grid component.

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47. (Previously Presented) The one or more computer-readable media of claim 46, wherein the second table is updated to reflect a result produced by the recalculation engine.

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48. (Previously Presented) The one or more computer-readable media of claim 46, wherein the first and second tables are updated to reflect a result produced by the recalculation engine.

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49. (Previously Presented) The one or more computer-readable media of claim 46, wherein the first table is nested within a particular cell of the second table, the particular cell containing a non-calculation formula that is not evaluated by the recalculation engine but which defines a dependency between the two cells.

50. (Previously Presented) The one or more computer-readable media of claim 41, further comprising:

a free floating field renderable in the document but separately from the first and second tables;

5 a third spreadsheet component to receive a third formula entered into the free floating field; and

a third grid component to hold the third formula.

51-81. (Canceled).

82. (Currently Amended) One or more computer-readable media comprising computer-executable instructions for defining a computer architecture, wherein the computer architecture comprises:

a table appearance manager to manage how a table appears in a document,
5 the table having a cell configured to be interpreted by the architecture as word-processing based when the cell includes text or as spreadsheet-based when the cell includes one or more of a data value or a formula, the table further including one or more word-processing based cells and one or more spreadsheet-based cells; and

a spreadsheet functionality manager to manage spreadsheet functions for
10 the table, the functions comprising: determining, by the architecture and responsive to a [[user]] selection of the cell, whether the cell is word-processing based or spreadsheet-based and treating an enter key typed into the cell as meaning a return command in the event that the cell is interpreted as word-processing based or as meaning a command to navigate to another cell in the event
15 that the cell is interpreted as spreadsheet based, the selection of the cell, when the cell includes text or a data value, being exhibited by a character-based cursor ready for cell editing, and the selection of the cell, when the cell includes a formula, being exhibited by highlighting the formula; and

a recalculation engine to provide automatic universal recalculation in
20 response to a change to a data value or a formula in one or more tables in the document, the one or more tables being configured to be displayed with column headers and row headers during editing of the one or more tables table, and the one or more tables being configured to be displayed without column headers and row headers at other times;

wherein the table appearance manager and the spreadsheet functionality manager ~~[[are]]~~ being architecturally separate system managers of the architecture, and

5 wherein the table appearance manager and the spreadsheet functionality manager ~~[[are]]~~ being configured for:

 creating a first spreadsheet table for display in a document; and

 creating a second spreadsheet table for display in the document, the second spreadsheet table being nested within the first spreadsheet table when displayed.

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83. (Previously Presented) A data structure stored on the one or more computer-readable media of claim 82, the data structure being produced as a result of operation of the table appearance manager and the spreadsheet functionality manager.

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84. (Previously Presented) A computer configured for execution of the one or more computer-readable media of claim 82.

85. (Currently Amended) One or more computer-readable media comprising computer-executable instructions for defining a computer architecture, wherein the computer architecture comprises:

a table appearance manager to manage how a table appears in a document,
5 the table having a cell configured to be interpreted by the architecture as word-processing based when the cell includes text or as spreadsheet-based when the cell includes one or more of a data value or a formula;

a spreadsheet functionality manager to manage spreadsheet functions for the table, the functions comprising: determining, by the architecture and
10 responsive to a [[user]] selection of the cell, whether the cell is word-processing based or spreadsheet-based and treating an enter key typed into the cell as meaning a return command in the event that the cell is interpreted as word-processing based or as meaning a command to navigate to another cell in the event that the cell is interpreted as spreadsheet-based, the selection of the cell, when the
15 cell includes text or a data value, being exhibited by a character-based cursor ready for cell editing, and the selection of the cell, when the cell includes a formula, being exhibited by highlighting the formula; and

a recalculation engine to provide automatic universal recalculation in response to a change to a data value or a formula in one or more tables in the
20 document, the one or more tables being configured to be displayed with column headers and row headers during editing of the one or more tables table, and the one or more tables being configured to be displayed without column headers and row headers at other times;

wherein the table appearance manager and the spreadsheet functionality manager ~~[[are]]~~ being configured for:

5 integrating text and a spreadsheet table within a common document, the spreadsheet table supporting spreadsheet functionality comprising an enter key typed into the cell as meaning a command to navigate to another cell;

formatting the text according to a particular format; and

formatting cells in the spreadsheet table according to the particular format.

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86. (Previously Presented) A computer configured for execution of the one or more computer-readable media of claim 85.

87. (Currently Amended) One or more computer-readable media comprising computer-executable instructions for defining a computer architecture, wherein the computer architecture comprises:

a table appearance manager to manage how a table appears in a document,
5 the table having a cell configured to be interpreted by the architecture as word-processing based when the cell includes text or as spreadsheet-based when the cell includes one or more of a data value or a formula;

a spreadsheet functionality manager to manage spreadsheet functions for the table, the functions comprising: determining, responsive to a selection of the
10 cell, whether the cell is word-processing based or spreadsheet-based and treating an enter key typed into the cell as meaning a return command in the event that the cell is interpreted as word-processing based or as meaning a command to navigate to another cell in the event that the cell is interpreted as spreadsheet-based, the selection of the cell, when the cell includes text or a data value, being exhibited by
15 a character-based cursor ready for cell editing, and the selection of the cell, when the cell includes a formula, being exhibited by highlighting the formula; and

a recalculation engine to provide automatic universal recalculation in response to a change to a data value or a formula in one or more tables in the document, the one or more tables being configured to be displayed with column
20 headers and row headers during editing of the one or more tables table, and the one or more tables being configured to be displayed without column headers and row headers at other times;

~~wherein~~ the table appearance manager and the spreadsheet functionality manager ~~[[are]]~~ being configured for:

integrating text and a spreadsheet table within a common document,
the spreadsheet table supporting spreadsheet functionality comprising treating an
enter key typed into the cell as meaning a command to navigate to another cell;
and

5 evaluating the text and the spreadsheet table concurrently for
possible spelling or grammatical errors.

88. (Previously Presented) A computer configured for execution of the
one or more computer-readable media of claim 87.

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89. (Currently Amended) One or more computer-readable media comprising computer-executable instructions for defining a computer architecture, wherein the computer architecture comprises:

5 a table appearance manager to manage how a table appears in a document, the table having a cell configured to be interpreted as word-processing based when the cell includes text or as spreadsheet-based when the cell includes one or more of a data value or a formula;

10 a spreadsheet functionality manager to manage spreadsheet functions for the table, the functions comprising: determining, responsive to a selection of the cell, whether the cell is word-processing based or spreadsheet-based and treating an enter key typed into the cell as meaning a return command in the event that the cell is interpreted as word-processing based or as meaning a command to navigate to another cell in the event that the cell is interpreted as spreadsheet-based, the selection of the cell, when the cell includes text or a data value, being exhibited by
15 a character-based cursor ready for cell editing, and the selection of the cell, when the cell includes a formula, being exhibited by highlighting the formula; and

a recalculation engine to provide automatic universal recalculation in response to a change to a data value or a formula in one or more tables in the document, the one or more tables being configured to be displayed with column
20 headers and row headers during editing of the one or more tables table, and the one or more tables being configured to be displayed without column headers and row headers at other times;

~~wherein~~ the table appearance manager and the spreadsheet functionality manager ~~[[are]]~~ being configured for:

integrating text and a spreadsheet table within a common document,
the spreadsheet table supporting spreadsheet functionality comprising treating an
enter key typed into the cell as meaning a command to navigate to another cell;

- 5 enabling ~~a user to select~~ selection of a control function to modify or
evaluate an aspect of the document; and
applying the control function across both the text and the
spreadsheet table.

10 **90.** (Previously Presented) The one or more computer-readable media of
claim 89, wherein the control function is selected from a group of functions
including formatting, spell checking, grammar checking, find, find and replace,
auto-correct, applying document themes, inserting lists, images, drawings, charts,
hyperlinks, automatic detection of hyperlinks, and automatic detection of lists.

15 **91.** (Previously Presented) The one or more computer-readable media of
claim 89, wherein the control function is any text feature that can be applied to the
text and the applying comprises applying that text feature to the spreadsheet table.

92. (Currently Amended) One or more computer-readable media comprising computer-executable instructions for defining a computer architecture, wherein the computer architecture comprises:

a table appearance manager to manage how a table appears in a document,
5 the table having a cell configured to be interpreted as word-processing based when the cell includes text or as spreadsheet-based when the cell includes one or more of a data value or a formula;

a spreadsheet functionality manager to manage spreadsheet functions for the table, the functions comprising: determining, responsive to a selection of the
10 cell, whether the cell is word-processing based or spreadsheet-based and treating an enter key typed into the cell as meaning a return command in the event that the cell is interpreted as word-processing based or as meaning a command to navigate to another cell in the event that the cell is interpreted as spreadsheet-based, the selection of the cell, when the cell includes text or a data value, being exhibited by
15 a character-based cursor ready for cell editing, and the selection of the cell, when the cell includes a formula, being exhibited by highlighting the formula; and

a recalculation engine to provide automatic universal recalculation in response to a change to a data value or a formula in one or more tables in the document, the one or more tables being configured to be displayed with column
20 headers and row headers during editing of the one or more tables, and the one or more tables being configured to be displayed without column headers and row headers at other times;

~~wherein~~ the table appearance manager and the spreadsheet functionality manager ~~[[are]]~~ being configured for:

integrating text and a first spreadsheet table within a common document, the spreadsheet table supporting spreadsheet functionality comprising treating an enter key typed into the cell as meaning a command to navigate to another cell;

5 creating a second spreadsheet table by cutting or copying all or part of the first spreadsheet table and pasting said all or part of the first spreadsheet table; and

 updating any references to cells in the first spreadsheet table or the second spreadsheet table to reflect the newly created second spreadsheet table.

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93-97. (Canceled).

98. (Currently Amended) A computer comprising:

a memory;

a processing unit coupled to the memory; and

an architecture stored in the memory and executable on the processing unit

5 to construct and display a document having a table with integrated spreadsheet functionality, the architecture comprising:

a table appearance manager to manage how a table appears in a document, the table having a cell configured to be interpreted as word-processing based when the cell includes text or as spreadsheet-based when the cell includes

10 one or more of a data value or a formula; and

a spreadsheet functionality manager to manage spreadsheet functions for the table, the functions comprising: determining, responsive to a selection of the cell, whether the cell is word-processing based or spreadsheet-based and treating an enter key typed into the cell as meaning a return command in the event
15 that the cell is interpreted as word-processing based or as meaning a command to navigate to another cell in the event that the cell is interpreted as spreadsheet-based, the selection of the cell, when the cell includes text or a data value, being exhibited by a character-based cursor ready for cell editing, and the selection of the cell, when the cell includes a formula, being exhibited by highlighting the
20 formula; and

a recalculation engine to provide automatic universal recalculation in response to a change to a data value or a formula in one or more tables in the document, the one or more tables being configured to be displayed with column headers and row headers during editing of the one or more tables, and the one or

more tables being configured to be displayed without column headers and row headers at other times;

~~wherein~~ the table appearance manager and the spreadsheet functionality manager ~~[[are]]~~ being architecturally separate system managers of the architecture.

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99. (Original) A computer as recited in claim 98, wherein the architecture constructs multiple tables within the document, at least one table containing a reference to contents in another table.

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100. (Original) A computer as recited in claim 98, wherein the architecture constructs multiple tables within the document, the tables containing formulas referencing contents of other tables, whereupon modification of content in one of the tables, the architecture automatically recalculates all formulas in the tables in the document.

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101. (Original) A computer as recited in claim 98, wherein the architecture constructs a free floating field in the document, the free floating field containing a formula referencing content in the table, whereupon modification of content in the table, the architecture automatically recalculates the formulas in the free floating field.

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102. (Canceled).

103. (Currently Amended) A computer as recited in claim 98, wherein the architecture comprises a complementary pair of spreadsheet and grid objects for the table, the spreadsheet object facilitating [[user]] entry of content into the table and the grid object holding the content for the table.

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104-105. (Canceled).